

CLAIMS

WHAT IS CLAIMED IS:

1. A stent mandrel fixture, comprising:

a masking element configured to be inserted through a bore of a stent, the

5 masking element having an expanded configuration and a retracted configuration; and

an expansion causing mechanism capable of expanding the masking element from the retracted configuration to the expanded configuration to cause the masking element to make contact with and mask an inner surface of the stent.

2. The fixture of Claim 1, wherein the stent comprises a network of struts

10 separated by gaps, the struts having an outer wall, and inner wall and sidewalls between the inner wall and the outer wall and wherein the masking element is configured to protrude at least partially through the gaps of the stent to mask at least a portion of the sidewalls of the struts.

3. The fixture of Claim 1, wherein the expansion causing mechanism comprises

15 a rod, having a threaded portion, supporting the masking element; and

a nut such that the rotation of the nut on the threaded portion of the rod causes the masking element to expand and retract.

4. The fixture of Claim 1, wherein the expansion causing mechanism comprises

a hollow rod in fluid communication with the masking element; and

20 a source for supplying a gas or fluid into the hollow rod to cause the masking element to expand.

5. The fixture of Claim 4, additionally including a coupler to allow the hollow rod to rotate while the source is kept in a stationary position.

6. The fixture of Claim 1, wherein the expansion causing mechanism comprises a gas or fluid line in communication with the masking element, the masking element being in an enclosed form; and

5 a source for supplying a gas or fluid into the masking element to expand the masking element.

7. The fixture of Claim 1, wherein the expansion causing mechanism comprises a first member;

a second member extending out from the first member, such that the masking element is positioned over the second member, the masking element having one
10 end secured to the second member and an opposing end secured to the first member; and

a toggle switch to drive the second member into the first member to cause the masking element to expand and to drive the second member out from the first member to cause the masking element to retract.

8. The fixture of Claim 1, wherein the expansion causing mechanism is a
15 pneumatic or hydraulic mechanism.

9. The fixture of Claim 1, wherein the masking element includes an enclosed space to receive a gas or a fluid from the expansion causing mechanism.

10. A fixture to support a stent during the application of a coating composition to the stent, comprising:

20 a hollow tubular member configured to be inserted into a longitudinal bore of a stent;

a rod extending through the tubular member; and

a mechanism to cause the tubular member to expand and retract to support the

stent during the application of a coating composition to the stent.

11. The fixture of Claim 10, wherein one end of the tubular member is attached to the rod and an opposing end of the tubular member is capable of being pushed by the mechanism towards the end of the tubular member attached to the rod so as to cause the
5 tubular member to expand outwardly to engage an inner surface of the stent.

12. The fixture of Claim 10, wherein the hollow tubular member is attached to the rod so as to define an enclosed space between the rod and the tubular member in which a fluid or gas can be supplied and contained, and wherein the mechanism comprises a pump for supplying a fluid or gas into the space to expand the tubular
10 member.

13. The fixture of Claim 10, wherein the stent includes a frame structure having gaped regions, and wherein the hollow tubular member is configured to extend at least partially through the gaped regions.

14. A fixture to support a stent during the application of a coating composition to
15 the stent, comprising:

a mandrel base;

a rod extending out from the mandrel base, the rod configured to be moved in and out of the mandrel base; and

a support element integrated with the rod, the support element having a first
20 position of being engaged with the stent and a second position of being disengaged from the stent, wherein the movement of the rod in and out of the mandrel base causes the engagement and disengagement of the support element with the stent.

15. The fixture of Claim 14, additionally comprising a lever to drive the rod in

and out of the mandrel base.

16. The fixture of Claim 14, wherein the support member includes a tubular body disposed over the rod, the tubular body having one end coupled to a first end portion of the rod and a second end coupled to a side of the mandrel base from which the rod
5 extends.

17. A method of coating a stent with a composition, comprising:
positioning a stent on a fixture of Claim 1; and
applying a coating composition to the stent.

18. The method of claim 17, wherein the expansion causing mechanism expands
10 the masking element by supplying a gas or fluid into the masking element, and wherein the temperature of the gas or fluid is other than room temperature.

19. A method of coating a stent with a composition, comprising:
positioning a stent on a fixture of Claim 10; and
applying a coating composition to the stent.

15 20. A method of coating a stent with a composition, comprising:
positioning a stent on a fixture of Claim 14; and
applying a coating composition to the stent.

21. A method of coating a stent with a composition, comprising:
inserting a tubular member inside a longitudinal bore of a stent, the stent
20 comprising struts separated by gaps;

expanding the tubular member such that the tubular member at least partially extends through the gaps; and
applying a coating composition to the stent.